

CLAIMS

1. A monopole antenna, comprising:
a counterpoise;
a poise comprising a conductor having first and second edges, the first edge having a first taper extending from the counterpoise to the second edge, and the second edge having a straight edge or a second taper different from the first taper; and
a transmission line connected to the poise.
2. The monopole antenna of claim 1 wherein the first tapered edge is convex.
3. The monopole antenna of claim 1 wherein the first tapered edge is concave.
4. The monopole antenna of claim 1 wherein the conductor comprises a quarter ellipse.
5. The monopole antenna of claim 4 wherein the quarter ellipse comprises a quarter circle.
6. The monopole antenna of claim 1 wherein the first tapered edge has a taper defined by $y = 1/(m \cdot x)$, where m is any number.
7. The monopole antenna of claim 6 wherein $m = 1, 4$ or 8 .
8. The monopole antenna of claim 1 wherein the poise is folded.
9. The monopole antenna of claim 1 wherein the poise further comprises a substrate, the conductor being deposited on the substrate.
10. The monopole antenna of claim 9 wherein the substrate with the conductor deposited thereon is folded.

11. The monopole antenna of claim 10 wherein the substrate with the conductor deposited thereon is folded into a 3/4 rectangular channel.

12. The monopole antenna of claim 9 wherein the substrate with the conductor deposited thereon comprises a half cylinder.

13. A monopole antenna, comprising:

a counterpoise; and

a poise comprising first and second conductors, the first conductor having first and second edges, the first edge having a first taper extending from the counterpoise to the second edge, and the second edge having a straight edge or a second taper different from the first taper; and

a transmission line connected to at least one of the first and second conductors.

14. The monopole antenna of claim 13 wherein the poise is folded.

15. The monopole antenna of claim 13 wherein the second conductor is linear.

16. The monopole antenna of claim 15 wherein the first conductor comprises a quarter ellipse.

17. The monopole antenna of claim 16 wherein the poise further comprises a substrate, the first and second conductors being deposited on the substrate, and wherein the substrate with the first and second conductors deposited thereon is folded into a 3/4 rectangular channel.

18. The monopole antenna of claim 13 wherein the second conductor comprises a first and second edge, the first edge of the second conductor having a first taper extending from the counterpoise to the second edge of the second conductor, and

the second edge of the second conductor having a straight edge or a second taper different from the first taper of the second conductor.

19. The monopole antenna of claim 18 wherein the first tapered edge of the first and second conductors each has a taper defined by the $y=1/(m*x)$, where m is any number.

20. The monopole antenna of claim 19 wherein $m = 4$ for the first tapered edge of the first conductor, and $m = 8$ for the first tapered edge of the second conductor.

21. A monopole antenna, comprising:

a counterpoise; and

a poise coupled to the counterpoise, the poise having a maximum length of 2 inches, a maximum width of 0.625 inches and a maximum height of 0.3 inches, the poise further having a first bandwidth that includes a frequency range of 1575 – 2170 MHz and a second bandwidth that includes a frequency range of 824 – 960 MHz..

22. The monopole antenna of claim 21 wherein the poise is folded.

23. The monopole antenna of claim 21 wherein the poise comprises a first conductor having the bandwidth that includes the frequency range of 1575 – 2170 MHz, and a second conductor having the bandwidth that includes the frequency range of 824 – 960 MHz.

24. The monopole antenna of claim 23 wherein the first conductor comprises a quarter ellipse and the second conductor is linear.

25. The monopole antenna of claim 23 wherein the first conductor includes a first and second edges, the first edge having a first taper extending from the counterpoise to the second edge, and the second edge having a straight edge or a second taper different from the first taper.

26. The monopole antenna of claim 25 wherein the first tapered edge has a taper defined by $y = 1/(m \cdot x)$, where m is any number.

27. The monopole antenna of claim 23 wherein the poise further comprises a folded substrate having the first and second conductors deposited thereon.

28. The monopole antenna of claim 27 wherein the substrate with the conductor deposited thereon is folded into a three-quarter rectangular channel.

29. The monopole antenna of claim 23 wherein each of the first and second conductors have first and second edges, the first edge for each of the first and second conductors having a first taper extending from the counterpoise to its respective second edge, and the second edge for each of the first and second conductors having a straight edge or a second taper different from the taper of its respective first edge.

30. A wireless communications device, comprising:
a base;
a lid hinged to the base, the lid having a panel and a peripheral wall extending from the panel;
a display disposed within the lid;
a frame supported by the peripheral wall extending over the periphery of the display; and
an antenna having a poise disposed between the panel of the lid and the frame, the poise having a first bandwidth that includes a frequency range of 1575 – 2170 MHz and a second bandwidth that includes a frequency range of 824 – 960 MHz.

31. The wireless communications device of claim 30 wherein the poise comprises a first conductor having the bandwidth that includes the frequency range of 1575 – 2170 MHz, and a second conductor having the bandwidth that includes the frequency range of 824 – 960 MHz.

32. The wireless communications device of claim 30 wherein the antenna further comprises a counterpoise, the counterpoise being disposed between the panel of the lid and the display.